1955 Proposed Spruce Budworm Control Project

Boise and Payette National Forests

Southwest Idaho

R-4

Ogden, Utah

November 1954

SUMMARY STATEMENT

An infestation of spruce budworm, which first became noticeable several years ago and is still spreading, now seriously threatens important and extensive stands of commercial timber on the Boise and Payette National Forests in southwest Idaho. Affected tree species constitute more than half of the total available timber supply on which the industry and general economy of the area depend. Administrators and technical personnel of public agencies, together with representatives of organized industry, are so alarmed at the situation that they unanimously agree on the urgency of immediate corrective action.

Losses directly attributable to the infestation already are significant. These losses can pyramid into devastating proportions unless the biological balance is restored. Nature, of course, eventually will perform the task of adjusting these widespread abnormalities. Uncertainties regarding time required for nature's actions strongly indicate the wisdom of direct control before the infestation attains such severity as to become unmanageable.

Treatment by aerial spraying of insecticide has been demonstrated to be effective in controlling budworm infestations under conditions similar to those existing here. Probability of reinfestation can be minimized through treatment of the major part of the southwest Idaho infestation as one unit.

The summary tabulation which follows outlines the over-all scope of the infestation.

	Estimated Area (Acres)	Estimated Volume* (M Ft. b.m.)	Estimated Local Lumber Value*
Current losses	46,600	91,000	$ 6,370,000
Immediately threatened	628,000	5,250,000	367,500,000
Ultimately threatened	2,910,000	12,262,000	858,340,000

* (Idaho Wilderness Area excluded.)

The present proposal calls for treatment in 1955 of 628,000 acres at a cost of $690,800.

THE INFESTATION

Since spruce budworm began developing into epidemic proportions on the Boise and Payette Forests, it has been watched closely. Each year the

infestation has spread, not only in acreage but especially in severity, instead of losing momentum and subsiding as observers hoped it would do.

In 1952, Entomologist Orr reported for this area: "Choristoneura fumiferana (spruce budworm) was again the most prevalent defoliator in the region and has caused a considerable amount of apprehension among timber owners and managers....The area of heavy defoliation was much larger in 1952 than in 1951 but there has been very little actual killing of trees thus far. Intermediate and suppressed trees and reproduction appear to have suffered the most. If defoliation in 1953 is similar to that in 1952 there will undoubtedly be some top killing, even among larger trees."

In 1953, Orr reported: "Defoliation by the spruce budworm was again moderate to severe....There has still been no extensive killing of stands but many intermediate and over-topped trees are dying or are dead....It is expected that there will be an increase in the severity of defoliation in 1954."

A 1954 survey was made more comprehensively than had been possible during earlier observations. During the 1954 summer season pine butterfly control operations were in progress and some areas of overlapping budworm infestation were incidentally treated. This circumstance permitted collection of certain detailed information concerning the budworm attacks and in effect brought the infestation more prominently into the spotlight than had been the case previously.

Combined effects of summer observations and fall survey showed the current extent of 1954 infestation to be slightly in excess of a million acres. Excluding the isolated infestation in the Idaho Wilderness Area plus a few scattered spots which are only lightly affected, the area of infestation in Douglas fir, true fir and spruce types now totals some 628,000 acres. This area supports 5,250,000 M ft. b.m. of these species with a present stumpage value of $10,500,000 and a much more significant local lumber value of $367,500,000. 25% of the total timber volume on the Boise and Payette National Forests is immediately involved.

Most of the measurable damage up to the present has occurred in areas of heavy budworm infestation where defoliation has been repeated for several successive years. In these areas approximately 10% of the sawtimber stand has been lost through tree mortality, another 10% of the cubic foot volume has been wiped out through killing of poles and larger tops, and in addition about one-third of the reproduction has been destroyed. The total estimated loss figure of 91 million feet has been calculated after conversion of pole cubic volume into board feet and an allowance for reduced board foot productivity during part of the first rotation due to the loss in established reproduction.

IMPACTS OF INFESTATION

Losses, of course, can be expected to skyrocket into tremendous totals in the near future if the infestation is not stopped through natural forces or by direct control measures. Effects of these losses would be felt in many ways.

Serious obstacles to southwest Idaho timber management would result from any sizable reduction of Douglas fir, true fir, and spruce saw-timber or growing stock.

These forests are now entering a new stage, in fact, the first stage of real management. A reliable inventory has been completed and is being placed into practical operation. A permanent access road system is rapidly being advanced into a complete reality. The first comprehensive area-wide forest management cut, properly a salvage and high risk cut, is well under way for the purpose of speedily getting all land into positive production status. The immediate and continuing objective for all plans is to harvest the full sustained production which the inventory discloses. Industry and dependent communities are geared to this minimum level of raw material sustained capacity.

Moreover local industry is permanently organized to manufacture mixed woods along with pine in the proportion they occupy in stand composition of the forest. Markets for manufactured lumber have already become firmly established with this balance of species. Opportunities for new products and expanded markets are being aggressively explored. These efforts, which promise to be quickly fruitful, are concerned mainly with the timber species now under budworm attack.

In this advanced stage of management and in the face of the acute industrial need and pressure for utilization for full sustained capacity it is obviously sound business to take all economically justified measures to prevent serious present and future reductions of raw material supply. Any practicable minimization of losses is important, regardless of whether the causative agent is insect depredations or some more commonly recognized enemy such as fire. Reduction of Federal timber cutting budgets could not be recovered by southwest Idaho industry because of the very rapid approach of complete dependence on the Boise and Payette National Forests as other supplies dwindle toward insignificance. It is incidentally a coincidence, and a most fortunate one, that established industrial capacity harmonizes closely with sustained yield estimates for Federal lands.

The ultimate losers if the timber reservoir is lowered, are the dependent communities whose economy has been firmly based on the full raw material volumes known to be available. A short statement and a map recently prepared in connection with another matter, is appropriate for inclusion here:

"Within the southwest Idaho area there are a number of communities depending in varying degrees on the lumber industry. They are listed below:

Primarily Dependent	Population (1950 Census)
Emmett	3,067
Horseshoe Bend	401
Cascade	943
McCall	1,173
New Meadows	621
Council	748
	6,953

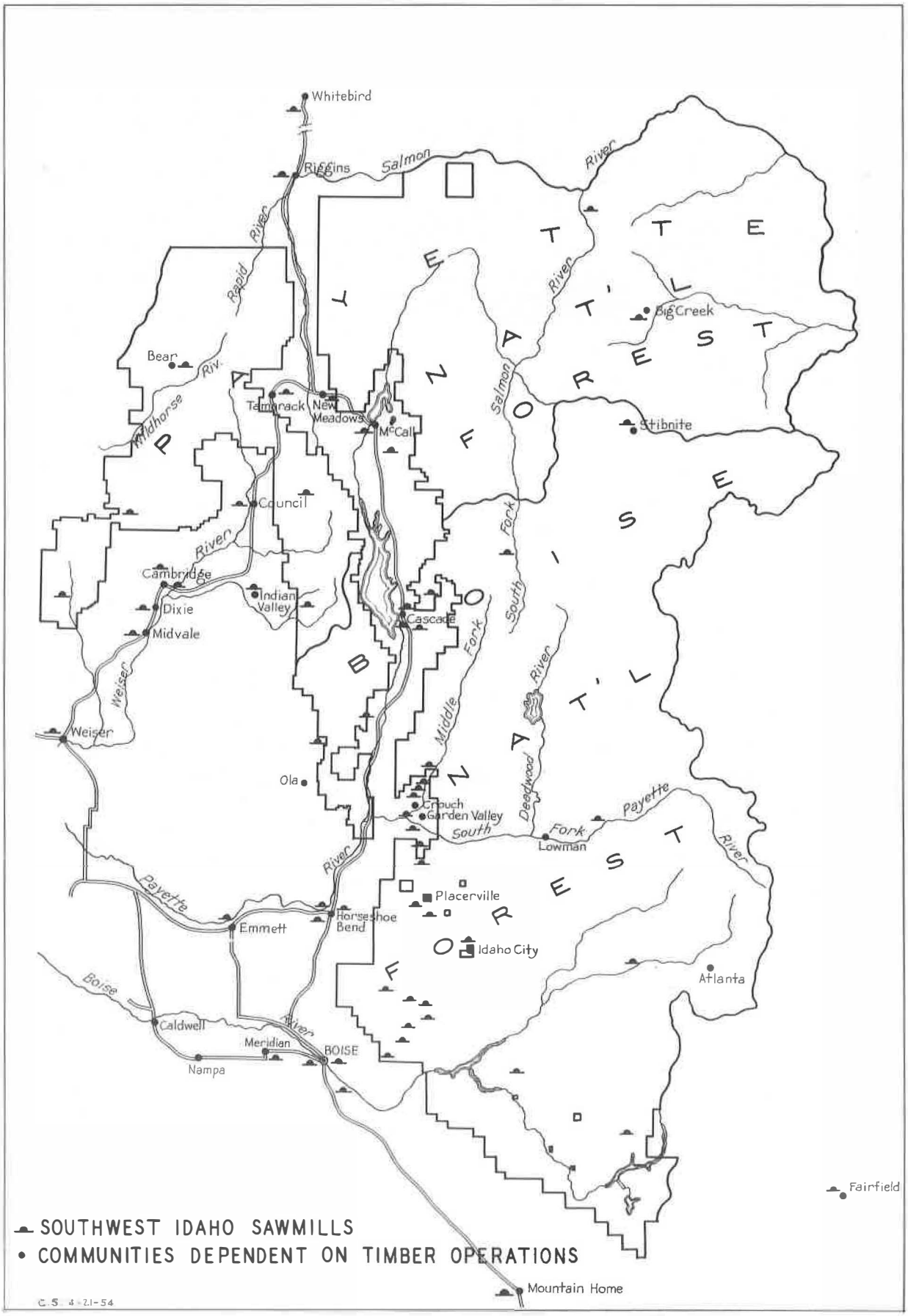
Secondarily Dependent	Population (1950 Census)
Boise	34,393
Mountain Home	1,887
Idaho City	246
Meridian	1,810
Weiser	3,961
Fairfield	502
Caldwell	2,480
Riggins	287
Cambridge	354
Midvale	231
Indian Valley	319
Stibnite	717
Nampa	7,000
Garden Valley-Crouch	410
	54,597

In addition, several smaller communities are dependent on an active logging and milling industry. These include Ola, Bear, Big Creek, Dixie, Placerville, Atlanta, and Lowman.

Locations of dependent communities are shown on the outline map immediately following.

According to the 1950 census there was a total population of 117,035 within the counties listed. A sizable share of the worker force in Adams, Boise, Gem, and Valley Counties, not working in agricultural pursuits, is employed in the lumber industry.

With a total population of 176,939 within the southwest Idaho area, a lumber production of 238,874,000 board feet of timber in 1947 and a labor force of about 1,800 persons engaged directly in the logging and milling work, a vigorous and dependable lumber industry is important to the economy of the area. Any major reduction in lumber production would


Whitebird
Riggins
Salmon River
Rapid River
Bear
Riv.
Midhorse
Tamarack
New Meadows
McCall
Salmon River
Big Creek
Stibnite
Council
Weiser River
Cambridge
Dixie
Midvale
Indian Valley
Cascade
South Fork
Middle Fork
Deadwood River
Weiser
Ola
Crouch
Garden Valley
Lowman
South Fork Payette River
Payette River
Placerville
Horseshoe Bend
Emmett
Idaho City
Atlanta
Boise River
Caldwell
Meridian
BOISE
Nampa
Fairfield
Mountain Home
SOUTHWEST IDAHO SAWMILLS
COMMUNITIES DEPENDENT ON TIMBER OPERATIONS
C.S. 4-21-54

have an extremely adverse effect on dependent communities and to the general area. Even a small reduction would probably start a downward trend in general business and employment which could quickly snowball into depression proportions."

PROPOSED PROJECT

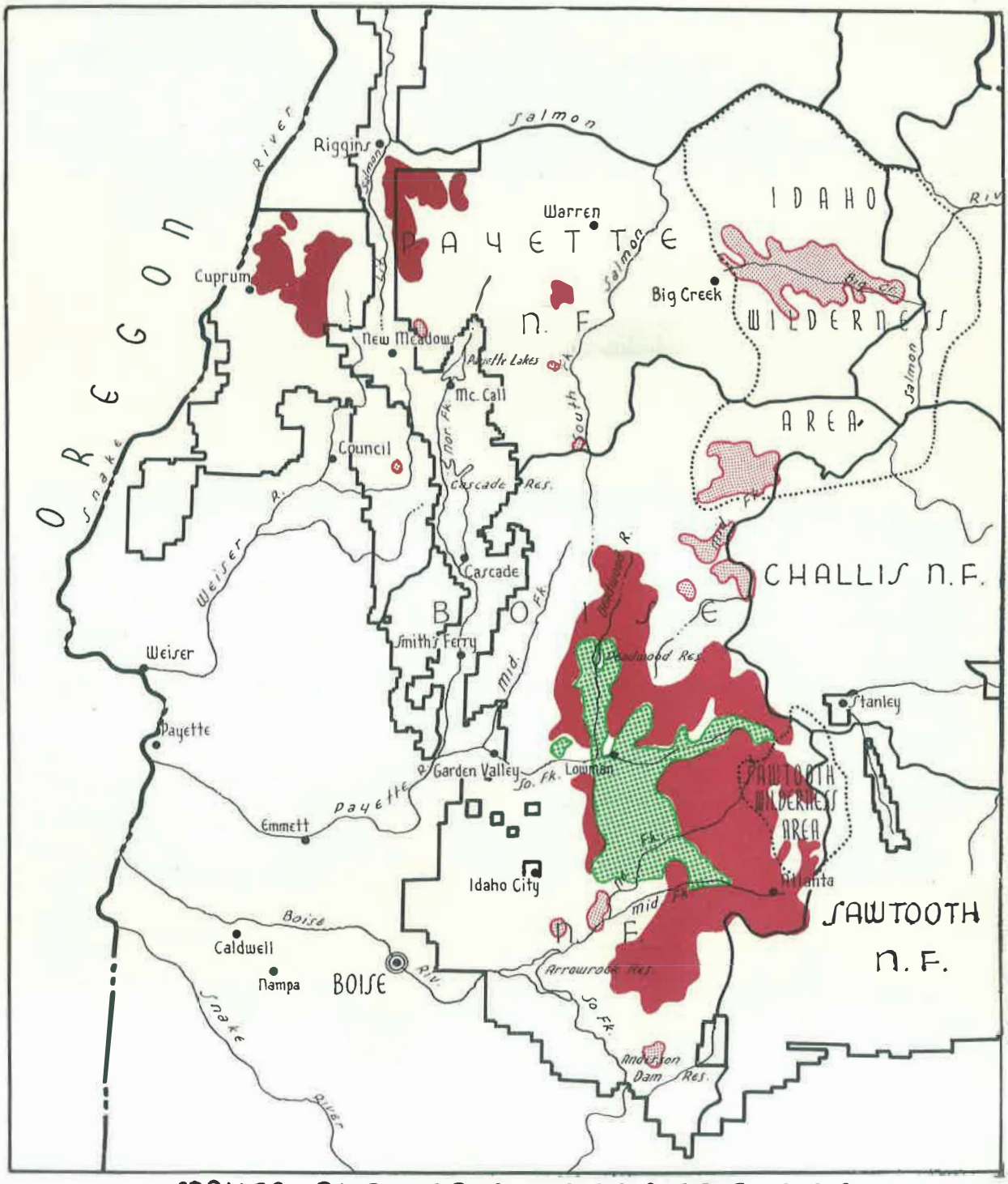
In considering the minimum size of required control project the currently infested area of about 1,000,000 acres on the two southwest Idaho forests can be reduced by omitting the Idaho Wilderness Area infestation where timber values are not too clearly recognized. Geographic barriers here are felt adequate to reduce probability of spread to other areas. This area reduction, together with others mentioned previously, permits rounding out the treating project at approximately 628,000 acres in size.

Estimated total cost of the project is $690,800. Approximately 17,000 acres of infested timber lands within the project boundaries is in non-federal ownerships which will bear their full share of treatment costs. The Federal cost will be $674,800.

Preceding statements have mainly emphasized the need and feasibility of the project. It has also been determined to be entomologically sound. This report in its entirety is of necessity a product of close working collaboration between management and research personnel and no particular attempt has been made to segregate their respective contributions. It does seem in order, however, in proposing the solution for the Boise-Payette infestation to quote the entomologist's justification for the project in his own words. James C. Evenden, Chief, Forest Insect Research, Intermountain Forest and Range Experiment Station, prepared the following summary statement:

> "During the past four years the spruce budworm infestation on the Boise and Payette National Forests has resulted in the death of a large volume of timber in several centers of heavy infestation. Additional losses can be expected. Obviously the seriousness of this additional loss will depend entirely upon the years that the outbreak continues at its present severity. Experience gained from spruce budworm control in other areas demonstrates that this insect cannot be completely controlled by direct measures without the aid of natural control factors. By reducing the budworm population with direct control measures the loss of timber can be prevented and an opportunity given for natural factors of control to restore a proper biological balance throughout the areas in question. The infested areas for which direct control is recommended are complete units where reinfestation from other uncontrolled areas would not be expected."

Local sentiment for the project is unanimously favorable. Fullest support and cooperation has already been offered or indicated from the South Idaho Pest Action Council, State of Idaho Department of Forestry, State of Idaho Land Department, Keep Idaho Green Committee, South Idaho Forestry Association. Idaho Cooperative Board of Forestry, Western Pine Association, Western Forestry and Conservation Association, Idaho State Chamber of Commerce. Southern Idaho Timber Protective Association and numerous individual industry units.



SPRUCE BUDWORM INFESTATIONS

SOUTHWESTERN IDAHO

BOISE & PAYETTE NATIONAL FORESTS-R-4.

SCALE 0 10 20 30 40 MILES.

LEGEND.

Area proposed for control in 1955.

Control not recommended-Scattered light infestations & Idaho Wilderness Area.

1954 Pine butterfly control area- Incidental Spruce budworm control.

U.S.F.S., OGDEN -NOV. 1954.